CloudPower Series

16 channel amplifier
with DSP and remote control

DATASHEET

CloudPower CP716D - 16 channel amplifier with Dante
latest update: 09-01-2023

CloudPower CP716D is a 16 channel, Class D amplifier, designed for immersive spaces and installations involving numerous separate zones.

CloudPower CP716D delivers 16 x 700W and can drive both low impedance and 70/100v speakers. The amplifier has sixteen networked audio input channels and four analogue inputs that can be configured as fallback signals. An internal streaming source contributes a further two channels from a device running Spotify or AirPlay. A 96kHz 16 x 16 Dante audio networking module is fitted as standard and multiple CP716D amplifiers can be networked to create systems of 64 x 64 channels and beyond.

CP716D can be remotely or locally configured and managed from any device* through the browser-based IntelliCloud WebUI. IntelliCloud provides control over the amplifier's onboard signal processing tools, including an input matrix, signal generators for setup, gain, PEQs, HP/LP filters, crossovers, limiters, and speaker preset management.

The amplifier is built on APEX's proprietary GlidePath direct drive architecture, which fully integrates DSP and amplifier circuits, employing DC coupling throughout the signal path to dramatically reduce time offsets and distortion. CloudPower's ultra-precise reproduction of high transients manages speaker cone excursion, minimizing distortion and prolonging speaker life by cutting mechanical wear.

* Requires an HTML5 compatible browser - Mac, iOS, Windows, Android.

FEATURES

- 16 x 16 Dante audio networking
- 4x analogue backup inputs
- Remote management over the cloud
- Directly-drive low impedance or 70/100v loudspeakers
- High-efficiency, low idle power
- IntelliCloud WebUI with built-in Wi-Fi hotspot
- Daylight viewable colour OLED display
- 16-channel platform
- 700 Watts per channel
- Unique internal streaming source supporting Spotify and AirPlay
- Source matrix

SPECIFICATIONS

Operating conditions	
Temperature	0° to 50° C, 10 to 60 % non-condensing
Storage temperature	-20° to 70° C
Safety / Compliance	CE Certificate
Amplification and power supply	
Amplification class	Class D GlidePath technology
Power supply model	Universal switch mode power supplies with active PFC
Power Factor	> 0,9 above 1/2 P
Mains Rating	100 - 240V @ 50-60 Hz
Operating Voltage	90 - 260V
AC Mains connector	Powercon 32A
Max. average power consumption	
Watts (W)	700W
Amps @ 230V	3,1
Amps @ 120V	5,9
Audio Specifications	
Frequency response	1Hz - 22kHz
Distortion THD+N	0,05% @ P/2 , 20Hz- 20 kHz, 22 kHz BW
Noise level (20 Hz - 20 kHz @ 8 ohm)	< 100 uV (A)
Latency	1 mS
Phase response	±10 deg 3 Hz - 20 kHz
S/N (20 Hz - 20 kHz @ 8 ohm)	118 dB (A)
Damping factor	4000@8ohm <1Khz
Input sensitivity	Settable in speaker preset. By default analog in to amplifier output = 26dB
DSP	
Digital Signal Processor	64 bit fixed point
I/O Routing	Flexible routing matrix

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User processing functions per channel

Gain:	-80 to +15dB, 0,1dB steps
Polarity:	Normal / inverted
Delay:	0 to 250 ms (Shared between User and Group settings)
PEQ:	12 x PEQ. Each PEQ can be set to a choice of 16 filter types (1)
HP/LP filters:	Bessel , Butterworth and Linkwitz Riley with slopes from 6 to 48 dB/oct
Limiter:	Peak voltage, RMS voltage

Group processing functions

Six global processing group overlays which can link any amplifier channel in the network

Gain:	-80 to +15dB, 0,1dB steps
Polarity:	Normal / inverted
Delay:	0 to 250 ms (Shared between User and Group settings)
PEQ:	12 x PEQ. Each PEQ can be set to a choice of 16 filter types (1)

Speaker processing functions

Gain:	-80 to +15dB, 0,1dB steps
Polarity:	Normal / inverted
Delay:	0 to 250 ms (Shared between User and Group settings)
PEQ:	12 x PEQ. Each PEQ can be set to a choice of 16 filter types (1)
HP/LP filters:	Bessel , Butterworth and Linkwitz Riley with slopes from 6 to 48 dB/oct
Limiter:	Peak voltage, RMS voltage
FIR filters:	768 taps per channel
(1) Filter types:	Bell-Sym,Bell-Asym, Notch, Low-Shelf 6dB or12dB, High-Shelf 6dB or 12dB
	All-Pass 90° or 180°, High-Pass 6dB, or 12dB, High-Pass VariQ 12dB,
	Low-Pass 6dB or 12dB, Low-Pass Vari-Q 12dB, Band-Pass

Circuits protection

Mains and power supply	Under, over voltage, over current protection
Power outputs	DC, Overtemp, Overcurrent limiter, VHF
Cooling	Cooling fans with signal control speed

Inputs

Analog	4 balanced analog line inputs 4x 3-pin Phoenix
A/D conversion	32 bit
Input impedance	10 kOhm
Max. input level	21 dBu
Digital	16 x 16 Dante digital network card
Internal Streaming source	Two channel internal streaming source supporting Spotify and AirPlay

Remote control and monitoring

Network connection	Single port Ethernet interface
Apex remote control software	IntelliCloud WebUI with built-in webserver

Front panel indicators

Daylight viewable colour OLED display	Real time level , limit and fault indicators

Amplifier model	CP716D
Total burst power (all channels driven)	11200
2 ohms	700
4 ohms	700
8 ohms	500
16 ohms	250
Hi-Z 70V	280
Hi-Z 100V	140
Max Output Power bridged mode	
4 ohms	1200W
8 ohms	1400W
16 ohms	1000W
Power and Thermal 115V	
Idle Power	120W
Idle Current Draw	1.2A
Idle Thermal loss	408 BTU/h
1/8 Power @ 4 Ohm Power	1600W
1/8 Power @ 4 Ohm Current Draw	14A
1/8 Power @ 4 Ohm Thermal loss	2729 BTU/h
Power and Thermal 230V	
Idle Power	120W
Idle Current Draw	0.6A
Idle Thermal loss	408 BTU/h
1/8 Power @ 4 Ohm Power	1600W
1/8 Power @ 4 Ohm Current Draw	7A
1/8 Power @ 4 Ohm Thermal loss	2560 BTU/h

Physical	
Unit Dimensions	483 x 44.5 x 458 mm
Shipping Dimensions	560 x 120 x 610mm
Unit Weight	10 kg - 22 Lbs
Shipping weight	11.5 Kg - 25 Lbs

In the interest of continuous product improvement all values specified are subject to change without notice.
Please refer to the online datasheet for the latest version. It can be found on the download section of our website: **https://apex-audio.be/downloadcenter/**